

Natural Heritage & Endangered Species Program

Commonwealth of Massachusetts
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MASSACHUSETTS THREATENED PLANTS

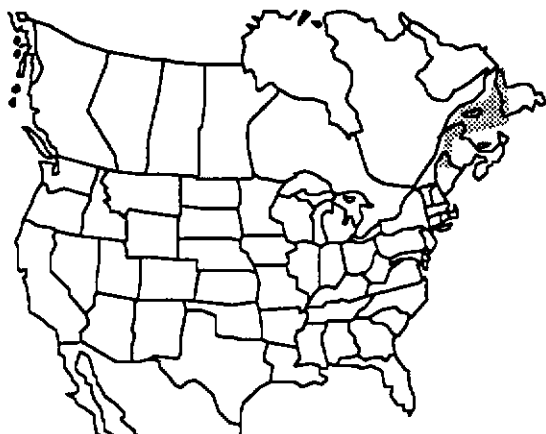
DIOECIOUS SEDGE (*Carex sterilis* Willd.)

Description

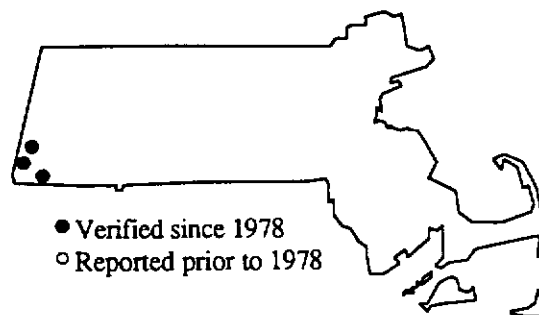
Dioecious sedge is an erect, slender, grass-like perennial in the Sedge family (Cyperaceae). Like most members of the Cyperaceae, it lacks showy floral parts. Its stiff culms, or stems, rise in dense clumps from short, horizontal, underground stems. These culms grow to between 1 and 7 dm (1/3 - 2 1/2 ft.) in height and are aphyllopodic (with the lowermost leaves reduced to scale-like structures). Leaves are 1-2.5 mm (0.04 - 0.1 in.) wide and are rough to the touch on their upper surface. Three to five of these pleated leaves grow from each culm. Dioecious sedge's name comes from its reproductive habits. An individual plant generally has flowers that are only of one sex. Dioecious plants have unisexual flowers in which the male and female flowers are borne on separate plants. Some plants may have a few flowers of the opposite sex; hence, the species is described as "subdioecious"--or almost dioecious. Dioecious sedge typically has four stalkless spikes (clusters of much-reduced, stalkless flowers arranged on an unbranched



Coffin and Pfannmuller. Minnesota's Endangered Flora and Fauna. University of Minnesota Press, Minnesota. 1988.



Documented Range of
Dioecious Sedge



Massachusetts Distribution by Town

axis). However, its plump, dark reddish-brown perigynia (sac-like membranes that enclose the female reproductive structures) are 2.1-3.8 mm (0.08 - 0.15 in.) in length and bidentate (two-toothed) at the apex. In addition, the perigynia are thick and spongy at the base.

Range

The documented range of dioecious sedge extends from Newfoundland to Saskatchewan and south to Pennsylvania, West Virginia, Tennessee, Illinois and Missouri.

Similar Species

Inland sedge (*Carex interior*) often occupies the same habitat as dioecious sedge (i.e., moist to wet calcareous areas) and could be mistaken for it. Nevertheless, the anthers (pollen-bearing parts of the stamens) of dioecious sedge can be quite long--up to 2.2 mm (0.09 in.). Those in inland sedge are smaller--only 0.6-1.4 mm (0.02 - 0.06 in.) long. Also, in contrast to the chestnut-colored perigynia of dioecious sedge, the perigynia of inland sedge are green to tan.

Habitat in Massachusetts

Dioecious sedge is a plant of moist to wet calcareous areas, including fens, calcareous river or lake shores and calcareous swamps. In Massachusetts, habitats include open portions of calcareous fens (areas where cold, calcium-rich, nutrient-poor water seeps to the surface) and a sloping seepage area next to a fen. Associated plant species include American grass of parnassus (*Parnassia glauca*), shrubby cinquefoil (*Potentilla fruticosa*), rough-leaved goldenrod (*Solidago patula*), bog goldenrod (*Solidago purshii*), brook lobelia (*Lobelia kalmii*), autumn willow (*Salix serissima*), yellow sedge (*Carex flava*), bristle-stalked sedge (*Carex leptalea*), meadow sedge (*Carex granularis*) and marsh muhly (*Muhlenbergia glomerata*). Among the rare Massachusetts species found with dioecious sedge are pendulous bulrush (*Scirpus pendulus*), great blue lobelia (*Lobelia siphilitica*), arborvitae (*Thuja occidentalis*), capillary beak sedge (*Rhynchospora capillacea*), fen sedge (*Carex tetanica*), northern bedstraw (*Galium boreale*) and Labrador bedstraw (*Galium labradoricum*).

Population Status

Dioecious sedge is presently listed as "Threatened" in Massachusetts. There are six current stations (discovered or relocated since 1978) in three towns and one historical station (unverified since 1978). (Two current stations and the sole historical station are located in one town, represented by a single, solid dot on the town distribution map.) Dioecious sedge is also considered rare in Connecticut, Pennsylvania, Ohio, Missouri, Minnesota and North Dakota. (All these states are at the edges of its range; only in the central portion of its range is dioecious sedge common.) It was present historically in Tennessee. Reasons for the plant's rarity include its highly restricted habitat and the destruction and alteration of its habitat.